

Application No.: 09/954,755  
Response to OA 12/07/2004

### Remarks

In the present response, claims 17-30 are presented for examination.

#### I. Claim Objections

##### Claim 18

Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants respectfully traverse.

Dependent claim 18 further limits recitations of independent claim 17. Specifically, claim 17 recites "determine an accuracy of a classifier." Claim 18 further limits the term "accuracy" and states: "wherein the accuracy provides an indication of a **degree** of correctness for the item" (emphasis added). According to Merriam-Webster online dictionary ([www.merriam-webster.com](http://www.merriam-webster.com)), the word "degree" has numerous meanings, including:

1 : a step or stage in a process, course, or order of classification  
<advanced by *degrees*>

6 a : the extent, measure, or scope of an action, condition, or relation <different in *degree* but not in kind> b : relative intensity  
<a high *degree* of stress> c : one of the forms or sets of forms used in the comparison of an adjective or adverb d : a legal measure of guilt or negligence <found guilty of robbery in the first *degree*>

Accuracy can be provided in numerous ways. By way of example, the specification states:

The accuracy 18 provides an indication of a degree of correctness in the classification rendered by the classifier 12 where the correctness is provided by the authoritative classifier 14. The accuracy

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18 may be viewed as providing a measure of distance between the zero or more categories selected by the classifier 12 for the item 10 and the one or more categories selected by the authoritative classifier 14 for the item 10.

Accuracy values determined for different classifiers using the present teachings may be used to evaluate the relative efficacy of the classifiers. Similarly, accuracy values determined before and after changes in the classifier 12 may be used to evaluate the relative goodness or badness in the changes made to the classifier 12. (Page 11, lines 7-23; See also Page 8, lines 20-27 for more examples).

For at least this reason, dependent claim 18 further limits the subject matter of independent claim 17.

#### **Claim 23**

Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. The Office Action contends: “ ‘Assigning an indifferent indication to each category in the hierarchy that does not contribute to a measure of accuracy of the classifier’ has no affect of limitation on claim 17’s accuracy of a classifier.” Applicants respectfully traverse.

As taught in Applicants’ specification, accuracy can be determined in numerous ways. By way of example only, Applicants’ specification states:

One or more of the categories into which the item 10 may be classified may be assigned an indifferent indication (I) by the authoritative classifier 14. The categories with the indifferent indication do not contribute to the measures of accuracy. For example, the categories having an indifferent indication are not counted when determining the TP, FP, FN, or TN counts. (Page 9, lines 16-23).

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Dependent claim 23 recites elements that are not included in independent claim 17. Thus, claim 23 clearly further limits independent claim 17.

## **II. Claim Rejections: 35 USC § 112 (second paragraph)**

Claim 24 is rejected under 35 USC 112, second paragraph, as being indefinite. Applicants respectfully traverse.

Claim 24 is amended to change the word "tendency" to "measurement." Claims 25 and 26 are amended to coincide with the amendment to claim 24. In light of these amendments, the rejection is now cured.

## **III. Claim Rejections: 35 USC § 112 (first paragraph)**

Claims 17-30 are rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The Office Action contends that the claims contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. Applicants respectfully traverse.

Below, Applicants recite exemplary locations in the specification to show enablement of the claims. These examples are merely illustrative and are not provided to limit the claims. Other embodiments and examples (not presented in the Remarks) also exist in the specification.

### **Claim 17**

The Office Action contends the specification is silent on assigning and evaluating first, second, third, and fourth indications. Applicants respectfully disagree.

The specification supports claim 17 in numerous locations. By way of example only, Applicants respectfully request the Examiner to review FIG. 3 and the accompanying description. FIG. 3 teaches a method for determining accuracy. "The accuracy 18 in one embodiment is based on a set of measures derived from the true, false, positive, and negative indications" (page 8, lines 20-22). Exemplary portions of the specification further state (emphasis added):

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At step 110, the accuracy evaluator 16 **assigns a true indication** to each category in the arrangement selected by the authoritative classifier 14 for the item 10 and **assigns a false indication** to each category in the arrangement not selected by the authoritative classifier 14 for the item 10. If a given category is selected by the authoritative classifier 14 for the item 10 then the given category and all of its ancestors are assigned the true indication at step 110.

At step 112, the accuracy evaluator 16 **assigns a positive indication** to each category in the arrangement selected by the classifier 12 for the item 10 and a **negative indication** to each category in the arrangement not selected by the classifier 12 for the item 10. If a given category is selected by the classifier 12 for the item 10 then the given category and all of its ancestors are assigned the positive indication at step 112.

At step 114, **the accuracy 18 of the classifier, 12 is determined by combining the true, false, positive, and negative indications.**  
(Page 7, line 32 – page 8, line 22).

#### **Claim 18**

Claim 18 is amended to recite "wherein the accuracy provides an indication of a degree of correctness for the item." The specification supports claim 18 in numerous locations. By way of example only, the specification states:

The accuracy 18 provides an indication of a degree of correctness in the classification rendered by the classifier 12 where the correctness is provided by the authoritative classifier 14. (Page 11, lines 7-10).

#### **Claim 19**

The Office Action contends: "The specification @ p 11, 16-15 does not address 'in the hierarchy.'"

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Applicants disagree with the contention of the Office Action. In order to reduce the number of disputes, however, claim 19 is amended to remove the phrase "in the hierarchy."

#### **Claim 20**

The Office Action contends the specification is silent on "numerical range." Applicants respectfully disagree.

The specification supports the limitations of claim 20 in numerous locations. By way of example only, the specification states (emphasis added):

At step 114, the accuracy 18 of the classifier, 12 is determined by combining the true, false, positive, and negative indications. **The accuracy 18 may have a specified range such as between 0 and 1 or between 0 and 100, etc.** For example, a higher value for the accuracy 18 indicates a relatively higher efficacy of the classifier 12 in classifying the item 10. (Page 8, lines 20-27).

#### **Claim 21**

The Office Action contends that the specification is silent on use of the term "the first indication to all ancestors of a category." Applicants respectfully disagree.

The specification supports the limitations of claim 21 in numerous locations. By way of example only, the specification states (emphasis added):

At step 110, the accuracy evaluator 16 assigns a true indication to each category in the arrangement selected by the authoritative classifier 14 for the item 10 and assigns a false indication to each category in the arrangement not selected by the authoritative classifier 14 for the item 10. **If a given category is selected by the authoritative classifier 14 for the item 10 then the given category and all of its ancestors are assigned the true indication at step 110.** (Page 7, line 32 – page 8, line 8).

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### **Claim 22**

The specification supports the limitations of claim 22 in numerous locations. By way of example only, the specification states (emphasis added):

The accuracy 18 in one embodiment is based on a set of measures derived from the true, false, positive, and negative indications. The measures include a true positive count (TP), a false positive count (FP), and a false negative count (FN). The true positive count may be determined by **counting** the categories which are assigned the true and positive indications. The false positive count may be determined by **counting** the categories which are assigned the false and positive indications. The false negative count may be determined by **counting** the categories which are assigned the true and negative indications.

The measures derived from the true, false, positive, and negative indications may include a true negative count (TN). The true negative count may be determined by **counting** the categories which are assigned the false and negative indications. (Page 8, line 29 – page 9, line 14).

### **Claim 23**

The specification supports the limitations of claim 23 in numerous locations. By way of example only, the specification states (emphasis added):

One or more of the categories into which the item 10 may be classified may be **assigned an indifferent indication (I)** by the authoritative classifier 14. **The categories with the indifferent indication do not contribute to the measures of accuracy.** For example, the categories having an indifferent indication are not

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counted when determining the TP, FP, FN, or TN counts. (Page 9, lines 16-23).

**Claim 24**

The specification supports the limitations of claim 24 in numerous locations. By way of example only, the specification states (emphasis added):

The accuracy 18 may be obtained by combining an over-conservativeness measure (OC) and an over-aggressiveness **measure** (OA). The over-conservativeness is the tendency of the classifier 12 to not put an item in enough classes or not put the item deep enough in the hierarchy given the attributes of the item. The over-aggressiveness is the tendency of the classifier 12 to put an item in more classes or in classes deeper in the hierarchy than is warranted by the attributes of the item. (Page 9, line 25 – page 10, line 2).

**Claim 25**

The specification supports the limitations of claim 25 in numerous locations. By way of example only, the specification states (emphasis added):

In one embodiment, the over-conservativeness measure equals the  $FN/(TP+FN)$  and the over-aggressiveness measure equals  $FP/(FP+TP)$ . The over-conservativeness and over-aggressiveness **measures may be averaged as follows to obtain the accuracy 18.** (Page 10, lines 4-8).

Accuracy is then defined with a mathematical formula.

**Claim 26**

The specification supports the limitations of claim 26 in numerous locations. By way of example only, the specification states (emphasis added):

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The over-conservativeness and over-aggressiveness measures may be combined using a harmonic mean as follows. (Page 10, lines 9-11).

Accuracy is then defined with a mathematical formula.

#### **Claims 27, 28, 29**

In rejecting these claims, the Office Action merely states "See claim 17 comments." Applicants cannot determine the merits of the rejection from this statement. Applicants respectfully ask the Examiner to elucidate. In an effort to respond, Applicants kindly refer to Applicants' remarks made above in connection with the rejection of claim 17 and other claims.

#### **Claim 30**

The specification supports claim 30 in numerous locations. By way of example only, Applicants respectfully request the Examiner to review FIG. 3 and the accompanying description. FIG. 3 teaches a method for determining accuracy. "The accuracy 18 in one embodiment is based on a set of measures derived from the true, false, positive, and negative indications" (page 8, lines 20-22). Exemplary portions of the specification further state (emphasis added):

At step 110, the accuracy evaluator 16 **assigns a true indication** to each category in the arrangement selected by the authoritative classifier 14 for the item 10 and **assigns a false indication** to each category in the arrangement not selected by the authoritative classifier 14 for the item 10. If a given category is selected by the authoritative classifier 14 for the item 10 then the given category and all of its ancestors are assigned the true indication at step 110.

At step 112, the accuracy evaluator 16 **assigns a positive indication** to each category in the arrangement selected by the



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classifier 12 for the item 10 and a **negative indication** to each category in the arrangement not selected by the classifier 12 for the item 10. If a given category is selected by the classifier 12 for the item 10 then the given category and all of its ancestors are assigned the positive indication at step 112.

At step 114, **the accuracy 18 of the classifier, 12 is determined by combining the true, false, positive, and negative indications.**  
(Page 7, line 32 – page 8, line 22).

### **Law on Enablement**

Applicants respectfully submit that the requirements of § 112, first paragraph, are satisfied. One skilled in the art could make or use the invention from the disclosure in the patent coupled with information known in the art without undue experimentation. If the Examiner continues to maintain the Section 112 rejection, Applicants respectfully request compliance with MPEP § 2164.04 (portions omitted):

In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure) .... As stated by the court, "it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.

While the analysis and conclusion of a lack of enablement are based on the factors discussed in **MPEP § 2164.01(a)** and the evidence as a whole, it is not necessary to discuss each factor in the written enablement rejection. The language should focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims. This can be done by making specific findings of fact, supported by the evidence, and then drawing conclusions based on these findings of fact. For example,

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doubt may arise about enablement because information is missing about one or more essential parts or relationships between parts which one skilled in the art could not develop without undue experimentation. In such a case, the examiner should specifically identify what information is missing and why one skilled in the art could not supply the information without undue experimentation.

#### **IV. Claim Rejections: 35 USC § 101**

Claims 17 – 30 are rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter. Applicants respectfully traverse.

The Office Action states that the § 101 rejection can be overcome by inserting the term “computer implemented” prior to the “method.” Applicants have amended each independent claim (17, 27, and 30) as suggested.

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### CONCLUSION

In view of the above, Applicants believe all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332. In addition, all correspondence should continue to be directed to the following address:

**Hewlett-Packard Company**  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, Colorado 80527-2400

Respectfully submitted,



Philip S. Lyren  
Reg. No. 40,709  
Ph: 281-514-8236

#### CERTIFICATE UNDER 37 C.F.R. 1.8

The undersigned hereby certifies that this paper or papers, as described herein, is being transmitted to the United States Patent and Trademark Office facsimile number 703-872-9306 on this 7th day of March, 2005.

By   
Name: Be Henry